

IN THE CLAIMS

Please amend the claims as follows:

Claim 1-55 (Canceled).

Claim 56 (Currently Amended): A magnetic memory device manufacturing method, comprising:

forming a first wiring[[],] having at least either of a lower surface and two side surfaces ~~of which~~ is covered with a first yoke main body;

forming, on the first wiring, a magneto-resistance element ~~which is~~ sandwiched between first and second layers;

forming an insulating film on the first wiring and the second layer;

forming a magnetic film on the insulating film;

patterning the magnetic film;

removing part of the second layer, the magnetic film, and the insulating film on the magneto-resistance element to form first to fourth yoke tips from the magnetic film in self-alignment with the magneto-resistance element;

forming second wiring on the second layer and the first to fourth yoke tips; and

forming a second yoke main body which covers at least either of an upper surface and two side surfaces of the second wiring.

Claim 57 (Currently Amended): A magnetic memory device manufacturing method, comprising:

forming a first wiring[[],] having at least either of a lower surface and two side surfaces ~~of which~~ is covered with a first yoke main body;

forming, on the first wiring, a magneto-resistance element ~~which is~~ sandwiched between first and second layers;

forming an insulating film on the first wiring and the second layer;
forming a magnetic film on the insulating film;
removing part of the second layer, the magnetic film, and the insulating film on the magneto-resistance element;
patterning the magnetic film to form first to fourth yoke tips from the magnetic film in self-alignment with the magneto-resistance element;
forming second wiring on the second layer and the first to fourth yoke tips; and
forming a second yoke main body which covers at least either of an upper surface and two side surfaces of the second wiring.

Claim 58 (Currently Amended): The method according to claim 56, further comprising:

removing wherein part of the second layer, the magnetic film, and the insulating film on the magneto-resistance element ~~are removed~~ using either of etch-back and CMP.

Claim 59 (Currently Amended): The method according to claim 56, further comprising:

removing wherein part of the second layer, the magnetic film, and the insulating film on the magneto-resistance element ~~are removed~~ until surfaces of the second layer, the insulating layer, and the magnetic layer become flat.

Claim 60 (Currently Amended): The method according to claim 56, further comprising:

leaving wherein a step portion ~~is left~~ on a surface of the magnetic film when part of the second layer, the magnetic film, and the insulating film on the magneto-resistance element are removed.

Claim 61 (Currently Amended): The method according to claim 56, further comprising:

forming a mask layer after forming the magnetic film on the insulating film;
patterning the mask layer; and
patterning the magnetic layer using the patterned mask layer.

Claim 62 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the first and second yoke tips ~~are formed~~ to contact the second yoke main body and be spaced apart from the first yoke main body.

Claim 63 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the first and second yoke tips ~~are formed~~ to be magnetically coupled to the second yoke main body.

Claim 64 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the third and fourth yoke tips ~~are formed~~ to contact the first yoke main body and be spaced apart from the second yoke main body.

Claim 65 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the third and fourth yoke tips ~~are formed~~ to be magnetically coupled to the first yoke main body.

Claim 66 (Original): The method according to claim 56, further comprising:
patterning wherein the magnetic film ~~is patterned~~ to separate the first to fourth yoke tips from each other.

Claim 67 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the first to fourth yoke tips ~~are formed~~ to make distances between the first to fourth yoke tips and the magneto-resistance element equal to distances between the first to fourth yoke tips and the first wiring.

Claim 68 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the first to fourth yoke tips ~~are formed~~ to make distances between the first to fourth yoke tips and the magneto-resistance element equal to each other.

Claim 69 (Currently Amended): The method according to claim 56, further comprising:

forming wherein the first to fourth yoke tips ~~are formed~~ to make a distance between the magneto-resistance element and the first yoke main body equal to a distance between the magneto-resistance element and the second yoke main body.

Claim 70 (Original): The method according to claim 56, wherein the magneto-resistance element includes an MTJ element formed from a first magnetic layer, a

second magnetic layer, and a nonmagnetic layer sandwiched between the first and second magnetic layers.

Claim 71 (Currently Amended): The method according to claim 56, further comprising, wherein when the first and second yoke tips are formed on two sides of a long direction of the magneto-resistance element[[],]:

forming the first to fourth yoke tips ~~are formed~~ to make distances between the first and second yoke tips and the magneto-resistance element shorter than distances between the third and fourth yoke tips and the magneto-resistance element.

Claim 72 (Currently Amended): The method according to claim 56, further comprising, wherein when the first and second yoke tips are formed on two sides of a long direction of the magneto-resistance element[[],]:

making a film thickness of the insulating film on side surfaces of the magneto-resistance element facing the first and second yoke tips ~~are made~~ smaller than a film thickness of the insulating film on side surfaces of the magneto-resistance element facing the third and fourth yoke tips by moving a substrate in a direction perpendicular to the long direction when forming the insulating film by sputtering.

Claim 73 (Currently Amended): The method according to claim 56, further comprising, wherein when the first and second yoke tips are formed on two sides of a long direction of the magneto-resistance element[[],]:

forming the first to fourth yoke tips ~~are formed~~ to make aspect ratios of the first and second yoke tips lower than aspect ratios of the third and fourth yoke tips.

Claim 74 (Currently Amended): The method according to claim 56, further comprising, wherein when the second yoke main body is formed on two sides of a long direction of the magneto-resistance element[[,]]:

forming the first and second yoke main bodies ~~are formed~~ to make a distance between the second yoke main body and the magneto-resistance element shorter than a distance between the first yoke main body and the magneto-resistance element.

Claim 75 (Original): The method according to claim 56, further comprising:
patterning ~~wherein~~ the magnetic film ~~is patterned~~ to continuously form the first to fourth yoke tips around the magneto-resistance element.

Claim 76 (Currently Amended): A magnetic memory device manufacturing method, comprising:

forming a first wiring[[,]] having at least either of a lower surface and two side surfaces ~~of which~~ is covered with a first yoke main body;

forming an element material layer from a magneto-resistance element material sandwiched between first and second layers on the first wiring;

forming a first material layer having a magneto-resistance element shape on the element material layer;

forming a second material layer on the first material layer and the element material layer;

forming a third material layer on the second material layer;

planarizing the second and third material layers until the first material layer is exposed;

removing the second material layer exposed between the first and third material layers to expose the element material layer;

selectively removing the element material layer to form a magneto-resistance element and a yoke tip from the element material layer;
forming second wiring on the magneto-resistance element; and
forming a second yoke main body which covers at least either of an upper surface and two side surfaces of the second wiring.

Claim 77 (Original): The method according to claim 76, further comprising:

forming wherein the first and second yoke main bodies ~~are formed~~ from a layered structure of a magnetic film.

Claim 78 (Original): The method according to claim 76, further comprising:

forming wherein the first and second material layers are formed from different materials.

Claim 79 (Original): The method according to claim 76, further comprising:

forming wherein the first and third material layers ~~are formed~~ from a same material.

Claim 80 (Original): The method according to claim 56, wherein the first and second layers include metal layers.

Claim 81 (Original): The method according to claim 56, wherein either of the first and second layers includes a diode layer.